

Summary of Maternal and Child Health Needs Assessment



Five-Year Needs Assessment 2010



Executive Summary

In 2010, the Title V Agency for Missouri (Missouri Department of Health and Senior Services/Division of Community and Public Health) completed the statewide five-year maternal and child health (MCH) needs assessment to address the health care needs of women, infants and children including children and youth with special health care needs (CYSHCN). The goal of the Missouri Title V Needs Assessment was to identify MCH priorities for Missouri for the next five years and direct Title V resources to meet these MCH challenges through state/local partnerships and collaboration. The needs assessment process also provided Title V agencies an opportunity to monitor the changing trends/needs, availability, gaps, quality, and accessibility of health care services for MCH/CYSHCN populations. Monitoring these issues will provide the necessary information to make appropriate program and policy decisions for optimal resource allocation in a challenging environment.

The Missouri 2010 MCH Needs Assessment is comprehensive and all inclusive with input from quantitative and qualitative resources. Multiple methods and resources were applied in the needs assessment process:

- Review of the previous needs assessment for Missouri and other states.
- Review of MCH indicators and priorities generated by the Priority Missouri Information for Community Assessment (MICA).
- Review of state and national reports and health rankings in relevant MCH areas.
- Comparisons of Missouri data with national data on key MCH indicators and by using a wide variety of data sources. (e.g., vital records, census data, population-based survey, program-based data, etc.)
- Assessment of program capacity in relation to the MCH pyramid of health services by collecting and reviewing information provided by various internal and external agencies and programs.
- Qualitative analysis through 13 focus groups conducted throughout Missouri was divided into two groups:
 - Consumer Focus Groups (including Hispanics) and
 - Provider Focus Groups.
- An MCH priority setting methodology that relies on group consensus, voting, criteria based rating and Q sort methodology was applied at the stakeholders meeting to suggest possible MCH priorities for Missouri.
- The results of the stakeholders meeting in conjunction with MCH indicators data, program and policymakers input were used to develop the final set of MCH priorities for Missouri over the next five years.

Summary of State MCH Priorities

On April 6, 2010, selected MCH “stakeholders” from across Missouri gathered in Jefferson City to review quantitative and qualitative data compiled towards the needs assessment and selection of state MCH priorities. The work of the “stakeholders” and the Title V Agency yielded Missouri’s top ten MCH priorities in relation to the MCH

pyramid of health services – all of which underscore the importance of a life course perspective rather than a fragmented approach to improve MCH.

Top Ten Missouri MCH Priorities

Life Course Perspective is the overarching theme of Missouri MCH priorities.

MCH priorities identified in the 2005 Missouri MCH Needs Assessment and carried over into the 2011- 2015 five-year cycle

- Improve Health Care Access for MCH populations
- Prevent and Reduce Smoking Among Women and Adolescents
- Reduce Obesity Among Women, Children, and Adolescents
- Improve the Mental Health Status of MCH Populations
- Enhance Access to Oral Health Care Services for MCH populations
- Reduce Disparities in Adverse Birth and Pregnancy Outcomes
- Reduce Intentional and Unintentional Injuries Among Women, Children, and Adolescents
- Support Adequate Early Childhood Development and Education

MCH priorities emerged for the first time in the 2010 MCH Needs Assessment

- Improve Preconception Health among Women of Childbearing Age
- Reduce the Rate of Teen Pregnancies and Births

Summary of Needs Assessment of the MCH Population

Socio-Demographic Overview

The state of Missouri is centrally located in the heartland of the United States (U.S.) with 114 counties and one independent city (St. Louis City). With 5.9 million people, Missouri's population estimate increased by 6% from 2000 to 2008. Over half of the state's population (55%) falls inside the metropolitan statistical areas (MSA) of two cities St. Louis City and Kansas City. The current population distribution of Missouri is similar to that of the nation as a whole. Missouri residents are predominantly White (85.8%) with a significant African-American (11.9%) population. Hispanics make up roughly 14% of the total population nationally, but account for 3.2% of Missouri's population. However, mirroring the national trend, the Hispanic population is the fastest growing segment in Missouri and increased by nearly 60% between 2000 and 2008.

Missouri's MCH population including women of childbearing age, infants, children, and adolescents accounted for nearly half of the state's entire population in 2008, with 1.4% being live births and 3.8% being children and youth with special health care needs (CYSHCN).

The Missouri economy, like the nation as a whole, has been going through a downturn. Similar to the national unemployment rates (5.5% vs. 9.4%), Missouri's unemployment rate rose from 5.8% to 9% between May 2008 and May 2009. Based on the 2008 U.S. Census Current Population Survey, 780,000 or 13.3% of Missourians lived under the poverty level. There is a large pocket of high poverty rates in the southeast area of the state, where the poverty rates are routinely above 19%.

In addition, the percentages of pregnant women with a live birth in Missouri who enrolled in Medicaid, WIC, or Food Stamps were 47.6%, 43.5%, and 26.5% respectively in 2008. An estimated 6.5% of Missouri women with a recent live birth did not have any health insurance for their prenatal care.

Health of Women

General Women's Health. Prevention and health promotion before pregnancy and throughout a woman's lifespan is essential to achieve further improvement in MCH outcomes. The rates of smoking, obesity, binge drinking, hypertension, poor dental care, and STDs (Chlamydia and Gonorrhea) among women of childbearing age are higher in Missouri than the nation. According to the 2008 Behavioral Risk Factor Surveillance System (BRFSS), Missouri's prevalence among this population ranked:

- fourth highest in current smoking (28.4%) and
- sixth highest in obesity (29.8%).

Leading causes of deaths. Unintentional injuries were the leading cause of death among Missouri women of child bearing age in 2006, followed by cancer, heart disease, suicide, and homicide. More than one in four deaths (28.3%) was due to unintentional injuries.

Nearly half of the unintentional injury deaths were due to motor vehicle accidents. Death rates (per 100,000) among Missouri women of childbearing age were consistently higher than national rates for all five leading causes of death, especially due to unintentional injuries (29.3 vs. 20.9).

Preconception care. More than two-thirds (67.1%) of Missouri women with a recent live birth in 2007 did not take a multivitamin ≥ 4 times a week in the month before pregnancy. Nearly half (46.3%) of all Missouri live births were from unintended pregnancies in 2007.

Maternal and Infant Health

The total number of live births to Missouri residents was 80,944 in 2008, an increase of 7.4% from 1999. Similar to national trends, increasing proportions of Missouri women tend to delay their childbearing to an older age. A majority (80.4%) of live births were to White women. Although the number of Hispanic births only accounted for 5.6% of total births in 2008, it nearly doubled from 1999.

Teen births. In 2008, more than one in ten pregnancies (11,193 or 12%) and births (9,246 or 11.4%) in Missouri were to teens. The overall teen birth rate among 15-17 year olds in Missouri was comparable to the national rate in 2006 (22.6 vs. 22 per 1,000). However, Missouri's teen birth rates were consistently higher than the national rates among Non-Hispanic Whites, Non-Hispanic African-Americans and Hispanics. Similar to the national picture, after significant improvements in reducing Missouri's teen birth rates in the 1990s and early 2000s, the rates have reached a plateau between 2003 and 2008.

The teen birth rate among girls ages 15-17 in Missouri has been consistently lower in Whites than African-Americans and Hispanics, with the rates (per 1,000) in 2008 being 17.6, 42, and 47.1 respectively in 2008. Between 1990 and 2008, the teen birth rate declined by 62% for African-Americans and 37% for Whites but increased by 55% for Hispanics.

Early prenatal care. The proportion of women with first trimester prenatal care in Missouri has been consistently higher than the nation and increased from 77.6% in 1990 to 83.8% in 2008. However, early prenatal care rates in Missouri stabilized around 86% between 2000 and 2005 and had shown a small but noticeable decline between 2005 and 2008.

Among Missouri women with late or no prenatal care, the three most commonly reported barriers for getting prenatal care were:

- “*Didn't have enough money or insurance to pay for visits*” (34.4%)
- “*Couldn't get appointment when I wanted one*” (27.9%)
- “*Didn't have Medicaid card*” (27.7%)

Maternal smoking and alcohol use during pregnancy. Similar to national trends the rates of smoking during pregnancy among Missouri women decreased from 24.7% in 1990 to 18.3% in 1999, but remained around 18% since 1999 while the national rates steadily declined from 18.4% in 1990 to 10.7% in 2005. The prevalence of alcohol use in the last three months of pregnancy in Missouri was 4.5%. However, more than half of Missouri women (57.7%) reported alcohol use in the three months before pregnancy; this could reflect alcohol use in early pregnancy before pregnancy recognition.

Physical abuse around pregnancy. According to Missouri PRAMS 2007, Missouri had the third highest rate of physical abuse during pregnancy (4.2%), and sixth highest in prevalence of physical abuse before pregnancy (5.3%).

Maternal morbidity. Maternal morbidity may resolve or result in long-term disability after pregnancy. According to 2008 Missouri birth certificate data, the most frequently reported medical conditions (per 1,000 live births) were pregnancy-associated hypertension (51.4) and diabetes (33.2).

Maternal infections are very common. According to Missouri Pregnancy Risk Assessment Monitoring System (PRAMS), about 28,000 or more than one-third (35.8%) of Missouri women with a recent live birth in 2007 reported at least one infection during pregnancy. The most frequently reported infection was urinary tract infection (UTI) (18.6%). An estimated 5,500 or 7.1% of Missouri women with a live birth in 2007 reported having any STDs including chlamydia, gonorrhea, syphilis, genital warts (HPV), herpes, or trichomoniasis (Trich) during pregnancy.

According to 2007 Missouri PRAMS, about one in six (16%) of new mothers in Missouri reported frequently experiencing symptoms of postpartum depression, ranking Missouri third highest in the nation.

Maternal mortality. The maternal death rate calculated through the Missouri Pregnancy Associated Mortality Review (PAMR) was 25.8 per 100,000 live births. Between 1999 and 2003, the Missouri PAMR project identified 228 pregnancy related deaths. Embolism, hemorrhage, and hypertension are the top three leading causes of maternal death in Missouri.

Infant mortality rate (IMR). Missouri's IMR per 1,000 live births has been slightly higher than the national rate since 1996 (7.4 vs. 6.7 in 2006). Similar to national trends, after declining rapidly in early 1990s Missouri's IMR remained relatively unchanged since 2001 (7.4 per 1,000). However, in 2008 Missouri's IMR decreased by 4% (7.5 in 2007 to 7.2 per 1,000). African-American IMR in Missouri was twice that of White IMR (15 vs. 5.9 per 1,000 live births in 2008) and has been so for the past two decades both in the nation and Missouri.

Leading causes of infant deaths. In 2008 there were 583 infant deaths in Missouri. The top five leading causes of infant deaths were birth defects, short gestation and low birth weight (LBW), unintended injuries, sudden infant death syndrome (SIDS), and maternal

complications of pregnancy accounted for two-thirds (66.7%) of all infant deaths in Missouri in 2008. Short gestation and LBW (32.5%) was the leading cause of neonatal deaths (<28 days of age). On the other hand infant deaths due to SIDS and unintentional injuries were the leading cause of post-neonatal deaths in Missouri in 2008 (33.6%).

Infant sleep position and bed sharing. According to Missouri PRAMS 2007, almost three in four (73.9%) Missouri women often placed their baby on their back to sleep. However, the percentage of women placing their baby on the back to sleep was low among teen (60%) and Non-Hispanic African-American mothers (58.6%). About one in four (23.4%) Missouri women reported bed sharing with their baby. Similar to infant sleep position, the percentage of bed sharing was much higher among teen (32.9%) and Non-Hispanic African-American mothers (45.3%).

Low Birth Weight (LBW) and Preterm Delivery (PTD). LBW (<2,500g) and PTD (<37 weeks of gestation) are the leading cause of infant deaths, especially neonatal deaths in both Missouri and the nation. In 2008, the overall LBW rate in Missouri was 8.1% (8.3% in U.S.) with higher rates among African-American (13.3%) than White infants (7.1%). Missouri's PTD rate was slightly higher than the national rate (13.2% vs. 12.8% in 2006) with significant racial disparities. Similar to national trends, in the past two decades in Missouri the LBW rate increased by 14.1% (7.1% in 1990, 8.1% in 2008) and the PTD rate increased by 14.4% (11.1% in 1990, 12.7% in 2008).

Birth defects. Each year, approximately 6% of Missouri infants have a birth defect. The rate of birth defects is significantly higher among African-American infants (649.0 per 10,000) than among White infants (585.9 per 10,000). Neural tube defects have decreased significantly in the past decade, from 8.0 per 10,000 in 1993-1997 to 5.9 per 10,000 in 2002-2006.

Newborn blood spot screening. Missouri's Newborn Screening Program now screens for all 29 core conditions recommended by the American College of Medical Genetics and the March of Dimes. Nearly all newborns in Missouri received blood spot screening (99.9% in 2008), and all confirmed true positive cases (145 in 2008) received treatment.

Newborn hearing screening. Missouri Universal Newborn Hearing Screening Program (UNHSP) has achieved steady high screening rates since the UNHSP initiation in 2002. The percentage of live births screened before discharge increased from 96.6% in 2006 to 98.6% in 2008. According to the CDC 2007 data, Missouri performed better than the nation in indicators related to timely screening, diagnosis, and intervention.

However, like many other states, Missouri saw a large proportion of loss to follow-up (LFU) for audiological evaluation among infants who did not pass the hearing screening. Among 1,490 infants who did not pass the screening in Missouri in 2007, 56.8% were loss to follow-up, which was the median rate among 44 states.

Breastfeeding rate. Although Missouri has seen an improvement in breastfeeding, the breastfeeding rate has been consistently lower in Missouri than in the nation (ever having breastfed: 65.3% vs. 73.9% in 2009). The rates of breastfeeding at six months of age were 33.1% in Missouri and 43.4% in the nation. The groups with the lowest breastfeeding rates are Non-Hispanic African-American, less than 20 years of age, and less than a high school education. The top three barriers for initiating breastfeeding were

- “*did not like breastfeeding*” (47.5%)
- “*had other children to care for*” (28.8%)
- “*went back to work or school*” (23.8%)

Health of Children and Adolescents

In 2008, an estimated 1,582,696 children 0-19 years of age were living in Missouri - 27% of Missouri’s total population. In 2008, one in five children 0-19 years of age were living below federal poverty level and one-third of children under age 18 lived in single-parent families in Missouri; these measures were comparable with the national figures.

The percentage of children 0-19 years of age without health insurance in Missouri has been consistently lower than that nationwide since 1996 (7.6% vs. 10.9% in 2008). Nearly one-third of Missouri children 0-19 years of age (32%) were enrolled in MO HealthNet (Medicaid)/State Children’s Health Insurance Program (SCHIP) and more than one-third of children 0-4 years of age participated in WIC in 2008. Race/ethnicity disparity remained wide in socioeconomic status (SES) indicators among Missouri children. For example, the poverty rates for African-American (38.4%) and Hispanic (36.4%) children were more than twice the rate for Whites (15.6%) in 2008.

Overall health status. The national Kids Count’s overall child health assessment ranked Missouri 33rd among 50 states in 2009, unchanged compared to the ranking in 2005.

According to the 2007 National Survey for Children’s Health (NSCH) profile,

- *Missouri performed better than or was comparable with the nation* in most of the indicators in the profile such as perception of children’s health status, consistent insurance coverage, receiving developmental screening and mental health care, having medical home, school and activities, reading to young children, and perception of supportive and safe neighborhood.
- However, *Missouri fared slightly worse than the nation* in several areas such as breastfeeding, receiving preventive health and dental care, and household smoking, child care, and neighborhood amenities and conditions.

Leading causes of deaths. Death is relatively rare among children. One hundred fifty-one children ages 1-9 and 436 adolescents ages 10-19 died in Missouri in 2006, representing death rates (per 100,000) of 22 and 53.7 respectively. The death rate in Missouri adolescents was 31% higher than the national figure (41 per 100,000), largely due to the higher death rate for motor vehicle accidents (MVA) in Missouri (20.8 vs. 13.2 per 100,000).

Intentional and unintentional injuries. Unintentional injuries were the leading cause of deaths in both children and adolescents, with 587 deaths for ages 1-19 in Missouri in 2006, accounting for about half of total deaths for these age groups. Alarmingly, homicide was the third leading cause of deaths in Missouri children, and homicide and suicide were the second and third leading causes of deaths in adolescents in both Missouri and the nation. In short, 70% of all deaths among Missouri children ages 1-19 were attributed to injuries due to motor vehicle crashes (33%), all other unintentional injuries (16%), homicide (14%), and suicide (7%) in 2006.

Motor vehicle accidents (MVA). In 2007, MVA in Missouri were responsible for 176 deaths and more than 15,000 injuries that required hospitalizations or emergency department visits (ED). The death rates due to MVA among children and adolescents in Missouri have been consistently higher than national rates, especially among youth ages 10-19, where the death rate in Missouri was 63.4% higher than the nation (37.1 vs. 22.7 per 100,000 in 2006). However, similar to national trends, death rates due to MVA in Missouri has declined by 38% for children under age 15 and 26% for youth ages 15-19 between 1999 and 2008.

Child maltreatment. According to the 2008 Missouri Child Abuse and Neglect Hotline report, there were 56,111 reported incidents of child abuse/neglect that involved 75,781 children. There were 6,732 children substantiated for abuse or neglect in Missouri. Of all substantiated cases, 38.8% were under 6 years of age. The most prevalent category of abuse/neglect cases was neglect (43.8%), followed by physical abuse (26.0%), and sexual abuse (23.1%). Of the 30 child abuse and neglect fatalities, 25 (83.2%) were under 6 years of age.

Childhood immunization coverage. The percentage of children ages 19-35 months who received the recommended schedule of immunizations in Missouri had been comparable to national rates, and gradually increased from 72.1% in 1999 to 82.1% in 2007. Similar to national observations, Missouri saw a decline in the percentage of children receiving scheduled immunizations from 82.1% in 2007 to 74% in 2008 (79.8% in U.S.).

Overweight and obesity. Nearly one-third of Missouri WIC children were overweight or obese, and Missouri's prevalence had been slightly lower than the national figure (30.7% vs. 31.3% in 2008). Mirroring the national trend, the percentage of overweight or obesity in WIC children in Missouri had gradually increased from 23.8% in 1997 to 30.4% in 2004. However, since 2004, the increasing trend had slowed down. Prevalence of overweight or obesity among WIC children varies by race/ethnicity, with Hispanic children having the highest prevalence of 38.1% in 2008. This compared with prevalence of 30.5% and 26.8% for Non-Hispanic White and Non-Hispanic African-American children respectively.

Nearly one-third (31%) of Missouri children ages 10-17 were overweight or obese in 2007, which was comparable with the national figure of 31.6%, and remained unchanged compared with the prevalence in 2003 (31%).

Youth tobacco use. The prevalence of current cigarette smoking among Missouri high school students has been comparable with the national prevalence, and shows a significant decrease from 40.3% in 1997 to 23.8% in 2007. Similarly, the prevalence of current use of any form of tobacco in Missouri had been also trending downward from 39% in 1999 to 29.6% in 2007. Tobacco use is more prevalent in White than African-American youth in Missouri, with the prevalence of current cigarette smoking being 25.2% in Whites, compared to 15% in African-Americans in 2007. A similar declining trend in the prevalence of current cigarette smoking was also observed among Missouri middle school students (14.9% in 1999 vs. 5.7% in 2009).

Youth alcohol and drug use. Nearly one-third (29.1%) of Missouri high school students reported episodic heavy alcohol drinking during the last month, slightly higher than the national rate of 26% in 2007. Similar to the national trend, Missouri's prevalence declined by 27% from 39.9% in 1995 to 29.1% in 2007. White youth were more than twice as likely to drink heavily than African-Americans (32.4% vs. 13.7% in 2007).

Marijuana is the most commonly used illicit drug in the U.S. One in five (19%) Missouri youths in grades 9-12 reported using marijuana one or more times during the last month in 2007, which was comparable with the national figure of 19.7%. Youth marijuana use had declined in both Missouri and the nation in the past decade (28.2% in 1997 vs. 19% in 2007 in Missouri). African-American youths tend to be more likely to use marijuana than Whites in Missouri (24.3% vs. 17.5% in 2007).

Sexual behaviors. Half of Missouri high school students reported ever having sexual intercourse. The overall percentage in Missouri was slightly higher than the national figure in 2007 (52.1% vs. 47.8%) and had remained so since 1995 (53.7%). Despite significant declines between 1995 and 2003, the percentage of sexual intercourse among African-American youth still remains higher than in Whites (67.4% vs. 48.8% in 2007).

Chlamydia. Chlamydia is the most commonly reported bacterial sexually transmitted disease (STD). Teen girls ages 15-19 had the highest reported rate among all age/sex groups, with Missouri's rate being 37.4 (per 1,000) for girls ages 15-19 compared with 4.2 for total population in 2008. In 2008, there were 7,549 reported chlamydia cases among Missouri teen girls ages 15-19, accounting for nearly half (41.7%) of the total women cases in Missouri. The reported rate (per 1,000) of chlamydia had been consistently higher in Missouri than in the U.S. (37.4 vs. 32.6 for girls ages 15-19 in 2008).

Mirroring the national trend, Missouri had seen an increasing trend in the reported rate (per 1,000) of chlamydia in the past decade (26.5 in 1996 vs. 37.4 in 2008 for girls ages 15-19). African-American teen girls had the highest Chlamydia rate (100.3 per 1,000 in 2008) of any groups in Missouri.

Oral health. Dental caries (tooth decay) is the most common health problem of childhood, occurring five to eight times more frequently than asthma. According to the 2010 Missouri oral health survey for school children, among the third grade children in

Missouri, 52% had dental caries experience, nearly 25% had untreated tooth decay, and only 24% had dental sealants.

According to the National Survey of Children's Health (NSCH) 2007, 75.4% of Missouri children ages 1-17 received preventive dental care in the past year. This compared to the national prevalence of 78.4%, and ranked the fifth lowest in the nation. The percentage in Missouri was lowest among younger children ages 1-5 (42.3%), and children on Medicaid/SCHIP (68.7%) or uninsured (62.8%).

According to a report published by the Pew Center on the States in 2010, Missouri meets half of eight policy benchmarks identified by the report that are aimed at addressing children's dental health needs.

Childhood lead poisoning. Missouri is the top producer of lead ore and lead by-products in the U.S. At least 32 counties have either historic or current mining activities conducted within their boundaries. Environmental policy changes over the past few decades have resulted in children's decreased exposure to lead.

Despite an increase in the number of Missouri children under 6 years of age tested for blood lead, the number and percentage with confirmed elevated blood lead levels (EBLs) of $\geq 10 \text{ } \mu\text{g}/\text{dL}$ among those tested decreased from 3,759 or 5.9% in 2001 to 1,114 or 1.2% in 2008. Although the percentage of the children with EBL $\geq 10 \text{ } \mu\text{g}/\text{dL}$ had been consistently higher in Missouri than in the U.S. (5.9% vs. 3% in 2001; 2.2% vs. 1.2% in 2006), the gap continued to grow smaller.

Children and Youth with Special Health Care Needs (CYSHCN)

Socio-demographics. According to the most recent National Survey of Children with Special Health Care Needs (NSCSHCN) conducted in 2005-2006, estimated 223,070 children under age 18 in Missouri, which represented 16.2% of all Missouri children, had special health care needs. The prevalence of CYSHCN in Missouri was higher than the national figure of 13.9%.

Impact on CSHCN and their families. One in five (19.5%) Missouri CYSHCN had their daily activities greatly affected. Percentages of Missouri CYSHCN whose conditions cause financial problems or affect family members' employment status were 15.5% and 19.5% respectively.

Health care needs. CYSHCN need a broad range of services. Prescription medication (87.6%) was the most commonly reported health care need among CYSHCN, followed by preventive dental care (80.6%). The highest unmet need is dental care. The percentages of Missouri CYSHCN needing specific health care services who did not receive all needs were 9.9% for preventive dental care and 13.4% for other dental care.

Medical conditions. Allergies, reported by more than half of the CYSHCN (54.7%) in Missouri, are the most commonly reported condition, followed by asthma (37.4%), ADD/ADHD (30%), and depression and other emotional problems (20.7%).

National Performance Measures. The MCH Title V Block Grant Application identified five National Performance Measures (NPMs) from the NSCSHCN to evaluate success towards the national agenda for CYSHCN. The five indicators cover issues regarding insurance coverage, medical home, organization of services, family roles, and transition to adulthood. According to the NSCSHCN 2005-2006, Missouri performs as well as or better than the nation on the five NPMs. Notably, Missouri had the highest percentage of CYSHCN receiving the services necessary for adulthood transition in the nation (54.4%, MO vs. 41.2%, U.S.).

Asthma. Asthma is the most common chronic disease of children and youth in Missouri and the nation. In 2007, approximately 152,450 children (10.8% of individuals less than age 18) reported living with asthma in Missouri, accounting for about nearly one-third (29%) of an estimated 530,950 people with asthma in Missouri. Missouri children have a slightly higher prevalence rates of current asthma than the nation (10.8% vs. 9%, 2007 NSCH).

These children bear a disproportionate burden of asthma emergency department (ED) visits and hospitalizations. The rate of ED visits for asthma (per 1,000) slightly decreased from 10.3 in 1998 to 9.6 in 2007 among Missouri children under age 15. However, the racial disparity remained wide, with the rate (per 1,000) of 31.5 for African-Americans, more than six times the rate of 5.1 for Whites.

Results from Focus Groups

Stakeholder input is primal to the needs assessment process and community input, from both providers and consumers, is the center piece of this qualitative process. The Missouri Title V Needs Assessment process obtained input from providers and consumers through a series of 13 focus groups held across the state in various locations. The information obtained through these focus groups is a direct reflection of the status of health services and barriers to access them in Missouri Health care providers and consumers raised many common issues.

Urban and Rural Providers

- *Continuity of care* needs to be improved.
- Patients are *using the emergency department unnecessarily* because of lack of insurance.
- *Finding providers who take Medicaid* is difficult for all consumers in rural areas. It is difficult to navigate Medicaid system.
- *Transportation to appointments* is difficult, especially in rural areas.
- *Specialty care* is difficult.
- *CYSHCN face access issues* in rural areas (especially on Medicaid).
- *Rural areas need more flexibility* in how they offer adequate health care.

Urban and Rural Providers (cont.)

- *Immunizations present many challenges* related to tracking them for children.
- *Cultural competence of care* is becoming more and more important.
- *Teenage pregnancy* is a problem in both rural and urban areas. More adolescent sexuality education is needed.
- *Services to enhance parent knowledge and skills* regarding immunizations, navigating the health care system, and preventive health are much needed.
- *Integrating public health into the schools* would improve child health.
- In the past five years, providers see more and more patients uninsured and underinsured, increased out-of-pocket expenses for patients, and increased bureaucracy in health care.

Consumer Focus Group

- *Hours of availability* of some services are too limited.
- *Providers who accept Medicaid* consumers are difficult to find in many areas. Some consumers felt they sacrificed quality of care to go to a facility that accepted their Medicaid.
- Some areas, especially rural areas, have a *health care provider shortage*.
- There is often confusion about who accepts specific plans for specific services.
- *Long wait times* for appointments make health care less accessible, especially for working adults.
- Many consumers reported getting *inadequate or incorrect care* that was discovered later by a different clinician.
- Some consumers report *forsaking preventive care* in order to save money, especially when they are uninsured. Many participants reported they still have to *go to the emergency department to receive care*.
- *Language and cultural barriers* make accessing health care difficult for some consumers.
- Obtaining immunizations for children can be difficult since they are not always offered at the original health care provider's facility.
- Many consumers are *facing special health care challenges* for themselves and their families such as diabetes, allergies, and bi-polar disorder. They spend more time on managing insurance and care.
- *Service programs:*
 - Many local health departments were given high marks for affordable immunizations and good accessibility.
 - School nurses were reviewed very favorably. Most consumers felt that more school nurses with more extensive service time at each school are needed.
 - WIC is a very well-received service.
 - Head Start is a very well-received and well-utilized resource.
 - An efficient and simple web page with important information about services that is up-to-date was cited as a resource that would be helpful.
 - Lack of funding for social services has a ripple effect on consumer health.

Consumer Focus Group (cont.)

- *Transportation to care.* Getting Medicaid transportation arranged is difficult for many consumers. Specialists and dental services require consumers to travel a long distance. In rural areas consumers are typically traveling farther, and that travel requires more time away from work and more difficulty in reaching the needed health care services. Some specialty or preventive service providers do travel to rural areas occasionally. Consumers were very appreciative of those outreach services.
- *Medicaid eligibility.* Medicaid is difficult for adults to obtain if they are not pregnant. Many consumers reported that they cannot afford insurance, but they do not qualify for Medicaid.
- *Medicaid navigating.* Medicaid is easier to obtain for kids, but is still confusing to navigate the system at times. Some consumers with special health care needs found the formularies for Medicaid too restrictive. Reimbursement and finances drive health care decisions made by patients and clinicians. Navigating insurance and Medicaid is difficult and time consuming. Large out-of-pocket costs are a barrier to access. Medicaid's lack of coverage for specific services was sighted as a barrier to those services.
- Pre-existing conditions were cited as significant barriers to receiving health care coverage due to higher premiums. Individuals who have private insurance still find it to be inadequate coverage and need additional assistance with health care expenses.
- *A perfect system would include:* access to needed health care, increased quality of care, easy transportation to appointments, extended hours past regular working hours for working families, adequate funding to help people who need care, free health care, better health care for mothers, and coverage for natural herbs/medicines/treatments.
- *The most unmet needs:* dental health, mental health, vision/eye care, prescription coverage, and accessible health care in rural areas.
- *The most significant changes in the past five years:* reduced services, reduced hours by providers, fewer funded/free services, insurance accepted in fewer places, providers who will not accept Medicaid, decreased quality of care, stricter formularies, more out-of-pocket expenses, and fewer doctors in rural areas.

Hispanic Consumer Focus Group

- *Medical/Provider Relationship:*
 - Migrants have difficulty moving from one state to another with Medicaid coverage.
 - Participants reported numerous incidents of poor quality of care from misdiagnosis to poor customer service.
 - Participants reported being told they would be charged for WIC services and choosing to forgo the services as a result.
- *Health Education/Informational Resources.* A variety of sources were cited regarding health education and information such as WIC and University-based programs.

Hispanic Consumer Focus Group (cont.)

- *Financial:*
 - Regardless of immigration status, qualifying for Medicaid is very difficult for adults. There is a gap between Medicaid qualification and being able to afford private insurance.
 - Out-of-pocket expenses such as co-payment or specific services are not covered.
- *Culture sensitivity:*
 - Interpretation services are valuable, but many feel there is a lack of confidentiality with the interpreter. Additionally, participants felt that there was discrimination at some of the community facilities.
- *The most unmet need:* dental care.

Summary of MCH Program Capacity by Pyramid Levels

Direct/Enabling Services

Medicaid/SCHIP. Effective September 1, 1995, the Missouri Medicaid introduced a new health care delivery program called Managed Care. Missouri's Children's Health Insurance Program (CHIP), implemented in 1998, is a Medicaid expansion. Missouri is one of 12 states with State CHIP (SCHIP) eligibility of 300% or more of federal poverty level, which allows more children enrolled in these states than most other states.

- Missouri Medicaid for Kids:
 - Infants under age 1 whose family income is less than 185% of the federal poverty level (FPL) may be eligible.
 - Children under age 6 with a family income under 133% of FPL.
 - Children ages 6 through 18 with a family income at or below 100% FPL.
 - Uninsured children with a gross family income up to 300% of the FPL.
 - "Uninsured Children" are persons under 19 years of age who have not had employer-subsidized health care insurance or other health care coverage for six months prior to application.
- Missouri Medicaid for Pregnant Women (MPW) — This program is intended to provide Missouri Medicaid benefits to low-income pregnant women. A woman whose family income does not exceed 185% of poverty may qualify.

Trend in Number of Enrollees. As of September 2009, there were 943,280 Missourians enrolled with Missouri Medicaid. SCHIP has dramatically increased the number of children in Missouri with health insurance coverage, from 66,628 in September 2000, to 103,237 in FY 2009.

Federally Qualified Health Centers. Public primary health care delivery infrastructure in Missouri now supports a series of federally qualified health centers (FQHCs) throughout this state. Collectively, those FQHCs are referred to as "Community Health Centers" by the Missouri Primary Care Association (MPCA). These 21 primary care (community health centers) serve low income working persons, low income rural areas in general, and an increasing number of migrant workers (documented and undocumented). Community health centers can be identified under http://www.mo-pca.org/wp-content/files/directory/2009_directory.pdf. These community health centers and their satellite clinics represent an important part of the health "safety net" for Missourians in general and for the MCH population in particular.

Primary Care Physician Capacity. In October 2008, there were a total of 5,737 primary care physicians (PCPs) in Missouri. PCPs include those with specialties in primary pediatrics, obstetrics/gynecology (OB/GYN), general internal medicine, general practice, or family practice. The number of PCPs varies significantly by county, ranging from only one in four non-metro counties of Carter, Daviess, Mercer, and Shannon located in northern and southeast Missouri to the largest of 1,397 in St. Louis County. Majority

(76%) of PCPs were located in major metro counties of St. Louis, Jackson, St. Louis City, Greene, Boone, St. Charles, Clay, Cole, Cape Girardeau, and Jefferson.

There were a total of 605 OB/GYN physicians, accounting for 11% of the total PCPs in Missouri. Most (75 out of 115) counties did not have OB/GYN physicians. Similar to the distribution of total PCPs, three in four (75%) OB/GYN physicians were in metro counties of St. Louis, Jackson, St. Louis City, Greene, Boone, and St. Charles. In addition, three in four (74%) of pediatricians were centralized in the three metro counties of St. Louis, Jackson, St. Louis City, and Boone.

Dental Health Care Network. Missouri mirrors the nation's need for improved access to care for uninsured and underserved populations who do not have a dentist or dental clinic available to them. Six counties do not have practicing dentists and 12 counties have only one dentist of record. In addition, out of 2,595 registered dentists in Missouri, only 518, or 20%, billed Missouri Medicaid for services in 2007. With about 506,000 children enrolled in Missouri Medicaid across the state, it is particularly difficult for these children to access dental care. Community health clinics help to provide an infrastructure to provide oral health care; however, access to care continues to be one of the barriers in improving oral health. In 2009, most (85 out of 115) of the counties had five or fewer dentists and 13 of those counties had no dentists.

Mental Health Care Network through Missouri Department of Mental Health.

Missouri Department of Mental Health (DMH) works under three principal missions of prevention, treatment and improvement of mental disorders. DMH serves approximately 150,000 Missourians annually.

The ***Division of Comprehensive Psychiatric Services (CPS)*** is charged with the delivery of services to persons with mental illnesses throughout the state of Missouri. In FY 2009, CPS served more than 77,254 individuals.

Currently, 11,336 children under the age of 18, and 6,350 women between the ages of 15-44 are receiving services from the ***Missouri Division of Developmental Disabilities***.

In Missouri, the ***Division of Alcohol and Drug Abuse (ADA)*** is the state authority responsible for developing and implementing a statewide response addressing substance abuse problems impacting Missouri families and communities. An estimated 185,000 Missouri females need some type of substance abuse intervention.¹ An estimated 40,000 Missouri adolescents – both male and female – need some type of substance abuse intervention.² In FY 2009, ADA served 13,888 substance abusing adult females ages 18-44, 707 pregnant women at any age, and 3,315 adolescents under the age of 18 in its programs. Another 1,093 children received codependent services while a family member was in treatment. The ADA service capacity is only able to provide services to

¹ SAMHSA. Tabulations from National Survey on Drug Use and Health, 2002-2007. Office of Applied Studies, Rockville, MD, 2007.

² SAMHSA. National Survey on Drug Use and Health, 2006-2007. Office of Applied Studies, Rockville, MD, 2007.

approximately 8% of Missouri women and adolescents who need substance abuse treatment and intervention.

Local Public Health Network. The public health system in Missouri is comprised of the Missouri DHSS, 114 LPHAs, and multiple other partners, such as health care providers, that work together to protect and promote health.

Emergency Medical Service Networks. Of a network of 29 trauma centers that serve Missouri, ten are Level I trauma centers of which three are designated as Pediatric Centers. Missouri's Trauma Nurse Managers oversee both Adult and Pediatric Trauma Centers. In addition to the 10 Level I trauma centers, there are 11 Level II and 8 Level III trauma centers.

Bureau of Special Health Care Needs (SHCN). The Bureau of Special Health Care Needs (SHCN) of the Section for Healthy Families and Youth (HFY) in the Division of Community and Public Health (DCPH) provides statewide health care support services, including service coordination, for children and adults with disabilities, chronic illness and birth defects.

The **Children and Youth with Special Health Care Needs Program (CYSHCNP)** provides assistance statewide for CYSHCN from birth to age 21. The program focuses on early identification and service coordination for children and youth who meet medical eligibility guidelines. As payer of last resort, the program provides limited funding for medically necessary diagnostic and treatment services for children whose families also meet financial eligibility guidelines.

The **Healthy Children and Youth Program (HCY)** provides service coordination and authorization for medically necessary services for Missouri Medicaid recipients with special health care needs from birth to age 21.

SHCN contracts with one local public health agency to implement **Family Partnership** statewide activities. The Family Partnership provides information and support to CYSHCN and their families. The Family Partners are parents/legal guardians of individuals with special health care needs and have a unique connection with the families they serve while maintaining the professional aspect of the program. Family Partners are located in the community of the participants/families.

SHCN has a contract with the **Missouri Assistive Technology** to provide funding for access to assistive technology and assistive technology services for CYSHCN.

Supplemental Nutrition Program for Women, Infants and Children (WIC). The WIC program prescribes and pays for nutritious foods to supplement the diets of pregnant women, mothers who breastfeed for one year, and mothers who formula feed for six months, infants and children up to their 5th birthday who qualify as "nutritionally at-risk" and meet 185% of the Federal Poverty Guidelines. Program participants are reassessed every six months to determine eligibility status. The WIC program also provides

nutrition education, breastfeeding promotion and support, conducts immunization screenings and appropriate referrals to address the WIC participant's need. WIC participants obtain their foods by redeeming food checks for specific items at local grocery stores and pharmacies.

Building Blocks of Missouri Program. The program is based on the David Olds' model of home visiting and is currently replicated as the Nurse Family Partnership (NFP) nationally. The program has broad holistic objectives, which promote healthy and safe parenting and home environment. Program enrollment is open to low-income, first time mothers, prior to the 28th week of pregnancy. Registered nurses provide the services. The programs are now able to serve a total of 325 clients during a given time period.

Missouri Community-Based Home Visiting Program. The program targets low income (185% of poverty level or less) pregnant women, who are at risk of adverse pregnancy outcomes, who reside in Boone, Clay, Greene, Jackson, Maries, Mississippi, New Madrid, Phelps, Platte, Randolph, and St. Louis Counties, and who meet community established eligibility requirements. The model utilizes nurses and paraprofessionals. The goals of this program are to increase healthy pregnancies and positive birth outcomes, as well as decrease child abuse and neglect.

Missouri Model for Brief Smoking Cessation Training Program. The Missouri Model for Brief Smoking Cessation Training is a Missouri-specific curriculum built on the U.S. Public Health Services evidence-based five-step intervention (5 A's) outlined in the Clinical Practice Guideline: Treating Tobacco Use and Dependence. The Missouri Model also incorporates the Transtheoretical Model on stages of behavior change, motivational interviewing and referrals to the Missouri Tobacco Quitline for intervention and support. The Missouri Model for Brief Smoking Cessation Training was developed in 2005 to tackle the high smoking rates among pregnant women in Missouri to support clinician implementation of a comprehensive tobacco control program with women of reproductive age, particularly pregnant women.

Since 2008, there have been no further Missouri Model Trainings offered. There are currently no plans to offer additional training due to the lack of funding available, nor have there been additional requests for training.

Comprehensive Tobacco Control Program. The goals of the Missouri Comprehensive Tobacco Use Prevention Program are to prevent youth initiation of tobacco use, promote quitting among youth and adults, eliminate exposure to secondhand smoke, and reduce tobacco's impact on populations disproportionately affected by tobacco.

Youth Advocacy and Prevention Groups. Youth advocacy and prevention groups supported and promoted include: Smokebusters, which is high school based, and Youth Empowerment in Action Tobacco Education, Advocacy, and Media (YEA TEAM), which is middle school based. Successes with school programs for youth advocacy and prevention, including empowering them to seek environmental and policy change in their communities are particularly encouraging.

Missouri Tobacco Quitline (MTQ). The MTQ (1-800-QUIT-NOW) has been providing free cessation coaching services and referrals for local assistance since 2005. However, funding is insufficient to allow all callers to receive complete services. Through one grant from the Missouri Foundation for Health (MFH), MTQ has offered nicotine replacement therapy (NRT) to eligible callers since 2008 and will continue to do so through 2010.

Since the start of the MTQ in 2005, the priority population has been adults (over age 18) on Medicaid or who are uninsured and pregnant women, regardless of insurance status. At this time, all individuals who call can receive materials and/or one coaching call to assist them in setting up their plan. The priority populations may enroll in multiple coaching calls and receive NRT. Currently, individuals with chronic diseases, women breastfeeding an infant under one year of age, and women planning to get pregnant in the next three months are part of the priority population.

Population-Based Services

Newborn Blood Spot Screening. Newborn blood spot screening is a vital public health activity that is essential for preventing the devastating consequences of certain metabolic, endocrine and genetic disorders not clinically recognizable at birth. When infants are diagnosed and treated early, serious problems including disability and even death can be averted. It is the goal that every newborn be screened for certain harmful or potentially fatal disorders that aren't otherwise apparent at birth. There are no eligibility requirements for newborn screening, and services are provided statewide. State law mandates that all newborns born in Missouri have a newborn screening. Missouri screens for all 29 core conditions recommended by the American College of Medical Genetics and the March of Dimes. When considering secondary conditions, screening for these disorders actually allows for a total of 67 disorders to be detected through newborn screening.

Missouri Newborn Hearing Screening Program (MNHSP). The MNHSP partners with Missouri hospitals to ensure that every newborn is screened, referrals for audiology testing are made when needed, and data is collected to monitor the screening, referral and diagnostic process. MNHSP Follow-up Coordinators are responsible for follow-up of children who: did not have an initial hearing screen; did not receive a pass result on the initial hearing screen; or are found to be at risk for late onset hearing loss. The mission of the program is to assure all babies born in Missouri receive a hearing screen and appropriate follow-up as early identification, diagnosis and intervention services increase the likelihood that children with hearing loss will achieve communication skills commensurate with their hearing peers.

Immunization Program. The Missouri Immunization Program is managed by the Department's Bureau of Immunization Assessment and Assurance. The Immunization Program provides education and guidance to Missourians promoting immunization against vaccine preventable diseases. The program receives federal grant funding to

administer the federal entitlement Vaccines for Children (VFC) Program, a program which, through community providers, ensures vaccine is available to eligible children. The program also provides education and immunization record assessments for health care providers to increase coverage rates; develops and maintains a central immunization registry; tracks immunizations mandatory for school and day care; and forecasts need and gives technical assistance to providers and the general public regarding recommendations, vaccine safety, schedules, and other general vaccine information.

Bureau of HIV, STD, and Hepatitis. The Bureau of HIV, STD, and Hepatitis' purpose is to provide prevention activities designed to control and reduce HIV, STD, and viral hepatitis morbidity throughout the state, maintain a quality surveillance system to assure disease case reporting and analysis of morbidity and trends, and to assure HIV infected persons receive care and case management services. Specific activities include intensive investigation of HIV, AIDS, syphilis, gonorrhea, chlamydia, hepatitis B, and hepatitis C cases that involve counseling, partner elicitation and notification, testing, referral for treatment, vaccination, and care with the primary goal of stopping the spread of disease, prevent re-infection, and prevent health threatening sequela. Testing is made available at no cost for most of these diseases in Missouri's local public health agencies and a variety of other agencies that serve high risk populations. Case management services are provided for women who are pregnant and infected with hepatitis B to prevent perinatal transmission.

Missouri Infertility Prevention Program. Center for Disease Control (CDC), in collaboration with the Office of Population Affairs of the Department of Health and Human Services, supports a national Infertility Prevention Program (IPP) that funds chlamydia and gonorrhea screening and treatment services for low-income, sexually active women attending family planning, STD and other women's health care clinics. The project focuses on the CDC recommendations of women under the age of 25 to be annually screened for chlamydia, as this disease is prevalent in this age group. Many women are asymptomatic and if left untreated, chlamydia can cause infertility. This program has shown that routine screening of women can reduce chlamydia prevalence and pelvic inflammatory disease (PID) incidence in women.

Missouri is part of Region VII along with Kansas, Nebraska and Iowa. Federal funds also support the regional advisory committees and their collaborative work, including the chlamydia prevalence monitoring surveillance system to monitor trends in disease and to evaluate program impact. The program works closely with high prevalence contracted sites to conduct screening, provide treatment, and conduct partner management.

Newborn Health Program. The Newborn Health Program promotes healthy birth outcomes and healthy infants by increasing awareness of recommended maternal and child health practices through statewide outreach education that targets all women of childbearing age, their partners, families and communities. Educational activities and materials emphasize the importance of preconception health care and early entry into prenatal care; consumption of folic acid to reduce the risk of birth defects; avoidance of

smoking, alcohol and other drug use; appropriate birth spacing; breastfeeding; safe infant sleep practices; preventive health screenings; and other healthy behaviors.

Folic Acid Education/*An Ounce of Prevention* Curriculum Training. In 2008, DHSS was awarded a March of Dimes community grant for the *An Ounce of Prevention* Community Curriculum Intervention project, which targeted central Missouri Family and Consumer Sciences (FACS) educators and school nurses, high school students, and University of Missouri Sinclair School of Nursing (SON) senior nursing students using the *An Ounce of Prevention* evidence-based curriculum. Based on an educating-the-educators model, the project paired Sinclair SON senior students with central Missouri high school educators and/or school nurses who together attended one day curriculum implementation training. Nursing students collaborated with their assigned high school teacher and/or school nurse to plan and implement a birth defects prevention unit in the classroom focusing on the preventive value of folic acid consumption. Pre, post and two-month follow-up tests, for both perception and knowledge, were conducted with the high school students to evaluate the project's success.

Prevention of Sudden Infant Death Syndrome (SIDS) and Sudden Unexplained Infant Death (SUID) from Unsafe Infant Sleep Environment. The Bureau of Genetics and Healthy Childhood has not only been focusing its prevention efforts on the “back to sleep” campaign to continue to reduce the incidence of SIDS, but also to expand the campaign to include more information on the importance of a “safe sleep” environment for infants and the dangers of parents or caregivers co-sleeping with an infant or placing an infant on a sleep surface not made for an infant such as an adult bed, sofa or chair.

Prematurity Awareness. House Bill 716 was passed during the 2009 session of the Missouri legislature and enacted as *RSMo 191.711*. The legislation requires DHSS to prepare written educational publications with information about possible complications, proper care and support associated with premature infants; distribute the materials to children’s health and maternal care providers, hospitals, public health departments, and medical organizations; and encourage those organizations to provide the publications to parents or guardians of premature infants.

Breastfeeding Program. To improve the health of infants and their mothers through the promotion and support of breastfeeding initiation, exclusive breastfeeding for the first 6 months of life and continuation for at least the first year of life. This program provides technical assistance, training and educational materials to health care providers and the general public regarding breastfeeding as appropriate for all infants.

Alternatives to Abortion. The Alternatives to Abortion (A2A) Program is aimed at providing support for coordinated services to qualified pregnant women to achieve healthy birth outcomes and to assist women in carrying their pregnancies to term instead of having abortions. Services and counseling are available during pregnancy and continuing for one year postpartum to assist women in caring for their newborn babies or placing the babies for adoption. All women who enroll in the program are referred to

MO HealthNet to determine eligibility. The program is the payer of last resort for these services. Every county has at least one service center supported by the program.

Adolescent Health Program. The Adolescent Health Program (AHP) works with various DHSS programs and many other organizations to address the unique developmental health needs of adolescents and young adults (10-24 years of age). The AHP addresses many of the national and state performance measures (e.g., reducing teen births, suicide, injuries, obesity, and tobacco use).

Abstinence Education Grant Program (AEGP). The AEGP provides education to adolescents with the purpose of delaying involvement in sexual activity until marriage and to decrease out of wedlock pregnancies, adolescent pregnancy and birth rates, and sexually transmitted diseases.

Teen Outreach Program (TOP). This nationally recognized evidence-based program for 12-17 year-olds has proven successful in reducing teen pregnancy, decreasing school dropout rates, fostering school success, and promoting healthy behaviors. TOP is conducted as an afterschool program that includes interactive discussions about issues of interest to teens and service learning opportunities. DHSS contracts with five local public health agencies to implement TOP with school and community partners. In Missouri, TOP is being implemented in St. Louis City, and the counties of Phelps, Washington, Lafayette, Boone, Mississippi, Clay, and Hickory.

Preconception Health for Adolescents Action Learning Collaborative (ALC). Missouri is one of six states selected to participate in the ALC initiative with Association of Maternal & Child Health Programs (AMCHP), the Association of State and Territorial Health Officials (ASTHO), the CDC and fellow innovative states on integrating preconception health recommendations into adolescent health efforts. Key DHSS and Department of Elementary and Secondary Education (DESE) programs that address preconception health related issues provided input into the development of the application. Missouri's plan proposes to: 1) reframe "preconception" health for adolescents; 2) enhance existing school-offered curricula that address preconception health issues with teens in Family and Consumer Sciences and Health classes; and 3) inform future state-wide initiatives that address preconception health.

Injury Prevention Network. The Injury Prevention Program supports activities to reduce the incidence of fatal and non-fatal injuries in Missouri. The program supports the implementation of injury prevention programs in communities statewide. Strategic priorities are being developed to address the major injury areas in Missouri. SAFE KIDS of Missouri has established coalitions to provide injury prevention and intervention to children ages 0-14.

Childhood Lead Poisoning Prevention Program (CLPPP). The Program's mission is to assure the children of Missouri a safe and healthy environment through primary prevention, detection, surveillance, and environmental and case management for lead exposures that may cause illness or death. Outreach and education efforts have been

targeted toward pregnant women to raise awareness that lead can be passed from mother to her unborn child.

CLPPP works to assure that health care providers have the right information and tools available to screen patients under age 6 for lead. Follow-up activities and case management are provided for children with an elevated blood level to assist in helping the family understand the causes and health effects of childhood lead poisoning along with interventions that can reduce the current elevation, and help prevent repeated exposures and elevations.

Asthma Prevention and Control Program. The Missouri Asthma Prevention and Control Program (MAPCP) began in 2001 with a planning grant from CDC and currently is funded as an Enhanced Intervention Program. In 2009, Missouri became one of nine states receiving supplemental intervention funds. The MAPCP has three programmatic areas – partnerships, surveillance, and interventions with the following goals:

- Build and maintain relationships among organizations and individuals for alignment of effort and resources (*Partnerships*).
- Establish and maintain data sources that inform public health planning and intervention effectiveness (*Surveillance*).
- Promote a systems-based approach to delivering optimal asthma care and self-management support without barriers for people with asthma (*Interventions*).

Within these goals are objectives to reduce asthma related deaths, ED visits and hospitalizations, number of school and work days missed, activity limitations and disparities in asthma outcomes. Multi-level interventions include improving asthma outcomes in school-aged children through asthma action plans, school nursing manuals, awards programs and education of school staff (e.g., teachers, school board members, etc.); education of child care health consultants and child care workers; Asthma Ready Hospitals, Schools and Clinics; and county-wide community asthma action and resource linkage initiatives.

The program has many accomplishments to date and include: 1) The workforce development initiative has trained nearly 700 health professionals (Figure 75); 2) Nearly 2000 Asthma School Manuals and in-service DVDs have been distributed; 3) Through the School Health Contract (covers nearly 300,000 children and shown in Figure 76), 96% of children that have medication at school have an asthma action plan; 5) Every newly elected school board member in the state receives training that includes asthma; 6) The *2007 Missouri County-level Study* was completed interviewing a total of 49,513 adults to produce state and county-level prevalence rates of behavioral risk factors and chronic diseases, including asthma; 7) Three years of the Asthma Adult and Child call-back study data has been collected; 9) Hospital and emergency room data are available on line since 1993; 9) The School Nursing Award's over 200 recipients have implemented community-based projects in 60% of Missouri counties 10) The asthma module for Intervention Missouri for Community Interventions and Assessments is complete; 11) Childcare Health Consultants have provided Asthma Management Training to a total of 3,175 child care providers; 12) the MAPCP received the 2008 Governor's Award for

Quality and Productivity for Innovation; and 13) The Missouri Foundation for Health is investing \$8.5 million in asthma over the next five years.

Diabetes Prevention and Control Program (DCPC). The program reduces the burden (e.g., secondary complications, health care costs) of diabetes by partnering at the community and health care system level to provide screenings, referrals, care management and reducing primary risks (e.g., obesity and physical inactivity). Some services of this program are provided to women of childbearing age in Missouri.

Over the past several years, the DPCP has worked collaboratively with the Heart Disease and Stroke Prevention Program; Tobacco Control Program; Blindness Education, Screening, and Treatment (BEST) Program; and the Missouri Primary Care Association (MPCA) to improve patient care in 18 of the 21 Federally Qualified Health Centers (FQHCs) in the state. Scorecards were provided to each FQHC to monitor performance toward individual quality improvement goals, and technical assistance was offered to those centers demonstrating minimal progress. Additionally, the DPCP used the Assessment of Chronic Illness Care (ACIC) tool to monitor organizational changes in the FQHCs based on their implementation of the Planned Care Model and related quality improvement activities.

Infrastructure Building Services

Maternal and Child Health Coordinated System. The MCH Coordinated System distributes a portion of MCH Title V Block Grant funds to LPHAs through the MCH services contract. The contracts emphasize partnerships and coalitions at the local level to build MCH systems and expand the resources those systems can use to respond to priority MCH health needs.

Early Childhood Comprehensive System. The mission of the Early Childhood Comprehensive System (ECCS) Steering Committee has been to build and implement a statewide early childhood comprehensive system that supports families and communities in their development of children that are healthy and ready to learn at school entry.

Missouri Pregnancy Risk Assessment Monitoring System (PRAMS). PRAMS, the Pregnancy Risk Assessment Monitoring System, is a surveillance project of CDC and state health departments. PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during and shortly after pregnancy. The goal of the PRAMS project is to improve the health of mothers and infants by reducing adverse outcomes such as low birth weight, infant mortality and morbidity, and maternal morbidity.

Pregnancy Associated Mortality Review (PAMR). In establishing a more extensive maternal review process in Missouri, a decision was made to expand the traditional definition of maternal mortality by including CDC and American College of Obstetrics/Gynecology (ACOG) definition of pregnancy associated and pregnancy related deaths. Descriptive analysis of the PAMR data identified not only the leading

causes of maternal death in Missouri but also areas of the health care delivery system that could be improved. These recommendations include: 1) the encouragement of health care providers to accurately complete the death certificate to indicate if pregnancy contributed to the death, and 2) the timely diagnosis and management of high risk conditions such as cancer, hypertension and postpartum depression.

Birth Defect Registry. The department has maintained a birth defect registry since 1985, which includes births since 1980. Because of registry improvements beginning in 1993, most data analyses for Missouri birth defects use 1993 as the earliest year. The registry is passive and utilizes a multiple source approach.

Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is an annual telephone survey of approximately 5,300 adults age 18 and over. BRFSS provides a wide range of data on health conditions, risk factors, preventive practices and emerging issues. Because of the sample size, only state and regional data are available. Data are available on the Missouri BRFSS Web site at <http://cntysvr1.lphamo.org/pubdocs/brfss/index.php>. Regional data are available in annual reports and may be accessed through the Data and Statistical Reports link on the home page or at <http://www.dhss.mo.gov/BRFSS/Data.html>.

Community Health Improvement Resources (CHIR) Web Site. The Community Health Improvement Resources (CHIR) Web site (<http://www.dhss.mo.gov/CHIR/>) integrates data and intervention tools in a public health planning process designed to assist practitioners and community stakeholders with improving the health of their communities.

Community Profiles. A Community Data Profile, developed by the department's Bureau of Health Informatics (BHI), is county specific for a particular topic such as chronic disease, women's health, prenatal health, etc. Within each profile there are 15-30 indicators pertaining to that topic. Most profiles have a common format providing information on data years, number of events, rate, statistical significance (compared to the state), quintile ranking, state rate and links to additional graphing functions. For selected counties with a large enough African-American population, data by race are also provided. Each indicator is linked to a resource page that provides a definition for that indicator at <http://www.dhss.mo.gov/CommunityDataProfiles/>.

Missouri Information for Community Assessment (MICA). For health professionals and other interested users who are in need of additional analytic tools, BHI developed a web-based interactive system—Missouri Information for Community Assessment (MICA). By accessing MICA, an individual can follow a few simple steps to summarize health data, obtain rates, and prepare information in a graphic format for presentation. Users can choose from many conditions and generate ad hoc data tables of percentages or age-adjusted rates by year of occurrence, age, gender, race, county, or zip code of residence. Once the basic table structure is selected, the user may easily constrain the table by other variables. Clicking on table headers opens additional tables to show more detailed data on the category. Age-adjusted and age-specific rates and row or column

percentages may also be displayed at the user's option at
<http://www.dhss.mo.gov/MICA/index.html>.

Priorities MICA. BHI developed Priorities MICA to provide a structured process for determining the priority health needs of a community. It gives the user an objective method of ranking health concerns. Priorities MICA allows a user to select diseases or risk factors for prioritization and then choose criteria for determining the priority health needs among those diseases or risk factors. Users can rate the level of community support for each disease/risk factor and the importance of each criterion. There are 42 diseases available for ranking and 20 risk factors. Priorities can be determined for the state of Missouri, individual counties, or selected cities/areas. A total weight is given to each disease/risk factor based on the user's choices, and the diseases/risk factors are then presented as a ranked list.

Intervention MICA

Intervention MICA includes the following topics:

1. Asthma	5. Nutrition	9. Heart Disease and Stroke
2. Diabetes	6. Oral Health	10. Immunizations
3. Injury from Falls	7. Physical Activity	11. Tobacco Control
4. Motor Vehicle Injuries	8. Sexual Assault Prevention	12. Colorectal Cancer

In summary, the top ten MCH priorities for Missouri emphasize the importance of a life course perspective rather than a fragmented approach to MCH. The priorities also identify targeted areas for improvement at the state and local level, guide development of state performance measures, identify activities to meet priority needs and allocate resources. While eight of the ten priorities were also identified during the previous needs assessment, two priorities were newly identified. The priorities in conjunction with the associated national and state performance measures will assist programs in developing a plan of action for the next five years to target specific areas for improvement with a defined scope rather than broad objectives. The priorities will also assist Title V leadership in making difficult decisions under resource constraint settings.

These MCH priorities establish a framework for the allocation of Title V MCH Block Grant resources over the next five years. While certain priority needs such as smoking among MCH population groups, reduction of obesity, and adequate early childhood development can be favorably impacted through the allocation of MCH Block Grant funding, other needs such as improving access to health care might be more difficult to impact. However, the overriding MCH priority need for Missouri that emerged through the needs assessment process was to improve access to care for MCH population groups in Missouri. Improved access to MCH health care services will require a much larger commitment of resources (National and State) beyond Title V MCH Block Grant funding.